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IS 14298 (1995): Lubricating Equipment - Barrel transfer pumps for oil [PGD 19: Lubricating Equipments]



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भारतीय मानक  
स्नेहन उपस्कर — तेल के लिये बैरल अन्तरण पम्प —  
विशिष्टि

*Indian Standard*

LUBRICATING EQUIPMENT — BARREL TRANSFER  
PUMPS FOR OIL — SPECIFICATION

ICS 75.100; 23. 080

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**BUREAU OF INDIAN STANDARDS**  
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NEW DELHI 110002

## FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Lubricating Equipment Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

This standard provides the guidelines to the persons working in the various industries, particularly those working on the shop floor including steel plants which would ensure the transfer of oils of different viscosities at various temperatures from drums to other containers or from one container to other, without contamination and spillage and would also ensure the conservation of raw material. This standard would also provide the broad guidelines to the manufacturers and consumers regarding the design and constructional features of various elements of pumps. This standard would help the consumers in selecting the right type of pump according to the mode of drive available and quantity of lubricating oil to be transferred.

In the preparation of this standard following Inter plant standard for steel Industry (IPSS) has been referred:

IPSS: 1-02-012-81 Specification for oil transfer pump.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as the that of the specified value in this standard.

## *Indian Standard*

# LUBRICATING EQUIPMENT — BARREL TRANSFER PUMPS FOR OIL — SPECIFICATION

### 1 SCOPE

1.1 This standard covers the requirements for barrel transfer pumps for transfer of oil in viscosity range 30 to 500 centistokes at 40°C from 200 litre nominal capacity oil drums [ see IS 1783 ( Part 2 ) : 1988 ] to any other container without allowing any contamination and spillage.

### 2 REFERENCES

<i>IS No.</i>	<i>Title</i>
996 : 1979	Single phase small ac and universal electric motors ( <i>second revision</i> )
1260 (Part 2) : 1973	Pictorial marking for handling and labelling of goods : Part 2 General goods ( <i>second revision</i> )
1367 (Part 11)	Technical supply conditions for threaded steel fasteners : Part 11 Electroplated coating ( <i>under preparation</i> )
1503 : 1988	Specification for wooden packing cases ( <i>third revision</i> )
1568 : 1970	Specification for wire cloth for general purpose ( <i>first revision</i> )
1572 : 1986	Electroplated coatings of cadmium on iron and steel ( <i>second revision</i> )
1573 : 1986	Electroplated coatings of zinc on iron and steel ( <i>second revision</i> )
1783 (Part 2) : 1988	Drums, large, fixed ends: Part 2 Grade B drums ( <i>third revision</i> )
3624 : 1987	Pressure and vacuum gauges ( <i>second revision</i> )
4691 : 1985	Degrees of protection provided by enclosures for rotating electrical machinery ( <i>first revision</i> )
5125 : 1987	Method of tests and performance rating for rotary shaft radial lip type seal units ( <i>second revision</i> )
6362 : 1971	Designation of methods of cooling for rotating electrical machines
6528 : 1972	Stainless steel wire
8189 : 1976	Rubber hose for oil suction and discharge services ( Dock and offshore operations )
11656 : 1986	Antiwear hydraulic oil, extra heavy duty type

### 3 TYPES

#### 3.1 Type A — Hand Operated Barrel Transfer Oil Pump

The hand operated pump shall be semi-rotary type and shall be operated by semi-rotary motion of the handle. The pump is primed through a priming plug during every initial start of the pump ( *see Fig. 1* ).

#### 3.2 Type B — Motorized Oil Transfer Pump

The motorized oil transfer pump, shall be mounted on hand trolley. The unit is plugged into an electric outlet. The pump shall be operated by use of a switch provided on the unit ( *see Fig. 2* ).

### 4 MATERIAL

The material of the pump body, barrel, etc, shall be homogenous, free from any manufacturing defects and of robust construction for rugged handling.

### 5 DESIGNATION

The pump shall be designated by:

- a) Type of the pump, and
- b) IS Number of this standard.

*Example:*

Motorized barrel oil transfer pump conforming to this standard shall be designated as :  
Barrel Transfer Pump B, Motorized IS 14298

### 6 DESIGN AND CONSTRUCTIONAL FEATURES

6.1 The barrel transfer pump unit shall have a suction and delivery hose/pipe ( *see IS 8189 : 1976* ).

6.2 The suction pipe/hose shall be of adequate length so that it can empty the barrel completely.

6.3 Suction hose shall be provided with the suitable strainer of stainless steel wire conforming to IS 6528 : 1972 having a mesh of 500 micron ( *see IS 1568 : 1970* ) to prevent entry of foreign material into the pump.

6.4 The delivery hose shall have a minimum length of 1.5 m.

6.5 The seals shall be of adequate design and compatible with oil and conform to IS 5125 : 1987. Graphited asbestos gland may also be used as seal if required by the purchaser.

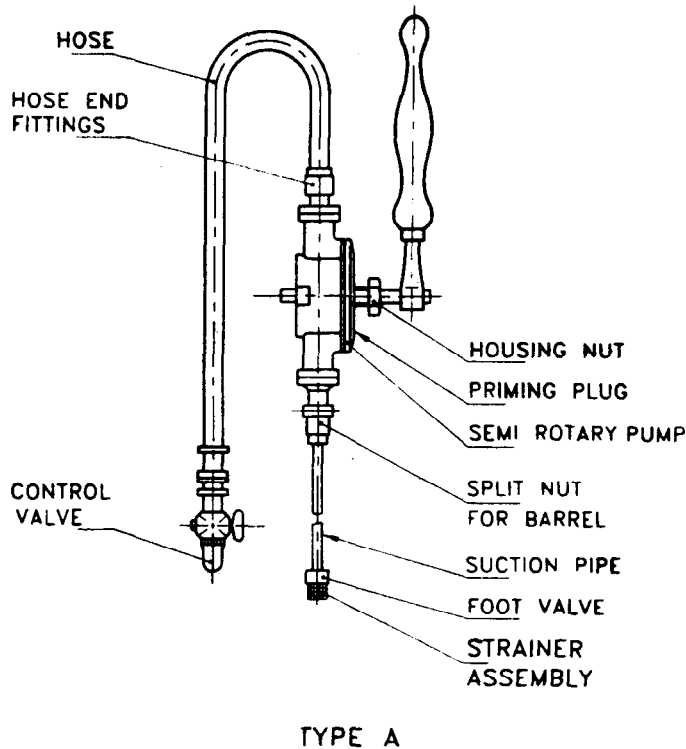


FIG. 1 HAND OPERATED BARREL TRANSFER OIL PUMP

6.6 The hand operated barrel transfer pump shall be capable of being screwed on the barrel. The suction pipe/hose shall have a split nut which could be adjusted to suit the height and shall have a non return foot valve.

6.7 The motorized barrel transfer pump for oil shall have a filter, pump and electric motor mounted on a hand trolley. A disposable 25 micron filter cartridge shall be provided in pressure line which can be changed without removing filter from the unit. A pressure gauge ( see IS 3624 : 1987 ) shall be provided to indicate the need for change of filter cartridge. The unit shall be provided with a by-pass relief valve. The pump shall be so constructed that the suction hose/pipe shall be placed in oil drum and delivery hose in the machine reservoir.

6.8 The motor for the motorized barrel transfer pump for oil shall be 0.5 kW, 240 V, single phase, 4 pole, ac squirrel cage induction motor type with IP 54 protection ( see IS 4691 : 1968 ) with method of cooling IC 0141 ( see IS 6362 : 1971 ) and with Class B insulation and shall conform to IS 996 : 1979.

6.9 A flow meter is to be provided at the pump delivery end.

## 7 WORKMANSHIP AND FINISH

7.1 The barrel transfer pumps shall be finished smooth and shall be free from burrs, cracks and other manufacturing defects.

7.2 Exposed surfaces of the pump that come in contact with oil shall be suitably zinc/cadmium plated ( see IS 1572 : 1986 and IS 1573 : 1986 ).

7.3 Parts of the pump which do not come in contact with oil shall be suitably painted to prevent corrosion.

7.4 Fasteners shall be zinc/cadmium plated [ see IS 1367 ( Part 11 ) ( under preparation ) ].

## 8 PERFORMANCE REQUIREMENTS

8.1 The performance requirements of the barrel transfer pumps shall be tested using oil as per IS 11656 : 1986. The performance requirements are given in Table 1.

8.2 During the test, the pump shall be able to deliver oil at discharge pressure and discharge rate mentioned in Table 1 continuously without leakage at any of the sealing points till the drum is emptied.

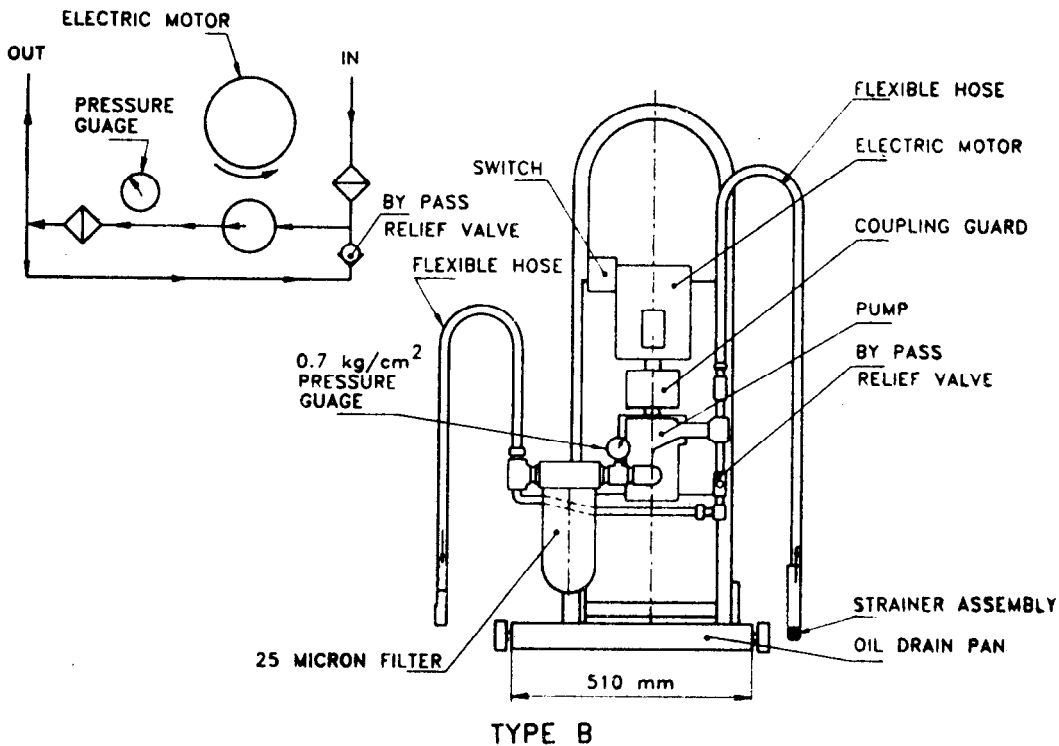


FIG. 2 MOTORIZED OIL TRANSFER PUMP

**Table 1 Performance Requirements for Barrel Transfer Pumps**  
(Clauses 8.1 and 8.2)

Type	Delivery (Min)	Operating Pressure
(1)	(2)	(3)
A	5.5 l/100 strokes	—
B	18 l/m	0.1 MN/m <sup>2</sup>

**9 MARKING**

9.1 The pumps shall be marked with direction of rotation and provided with a name plate giving the following information:

- a) Manufacturer's name and trade mark,
- b) Serial number and batch number,
- c) Designation of the pump, and
- d) Capacity of the pump.

**9.2 BIS Certification Marking**

The product may also be marked with the Standard Mark.

9.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards*

*Act, 1986 and the Rules and Regulations made there-under. The details of conditions under which the license for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.*

**10 PACKING**

10.1 The barrel transfer pumps shall be given antirust coating, wrapped in polythene bag and then packed in wooden boxes conforming to IS 1503 : 1988, or as agreed to between the purchaser and the supplier.

10.2 For identification, following information shall be stencilled on the package:

- a) Type of pump,
- b) Designation,
- c) Capacity, and
- d) Handling instructions, if any (for example, special markings for placements of the package [ see also IS 1260 ( Part 2 ): 1979 ].

10.3 Packages shall be made in such a way that they are protected against mechanical damage during transit.



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### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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